6-1-2018

The effect of foreign aid on foreign direct investment iInflows: Evidence from Africa

Joseph Michael

The American University in Cairo

School of Global Affairs and Public Policy

The Effect of Foreign Aid on Foreign Direct Investment Inflows: Evidence from Africa

A Thesis Submitted to

Department of Public Policy and Administration

In partial fulfillment of the requirements for
The degree of Master of Public Policy and Administration

Submitted By

Joseph Michael

Under the Supervision of

Hamid E. Ali, PhD

Associate Professor of Public Policy and Administration

Spring 2018

Acknowledgement

I take this opportunity to express my deepest appreciation to my committee members. I would like to thank my advisor, Dr. Hamid E. Ali for his support, guidance, and invaluable contribution throughout this thesis. I also want to thank Dr. Shahjahan Bhuiyan Public Policy and Administration Department Chair for his support and comments on this thesis. Finally, I wish to extend my gratitude to my committee member Dr. Ghada Barsoum, for giving me the opportunity to learn and work with her throughout this program.

It is with immense gratitude that I dedicate this thesis to my family for their patience and support throughout this process.

Joseph Michael

The American University in Cairo
School of Global Affairs and Public Policy
Department of Public Policy and Administration

The Effect of Foreign Aid on Foreign Direct Investment Inflows: Evidence from Africa

Joseph Michael

Supervised by Associate Professor Hamid E. Ali

Abstract

This thesis examines the impact of foreign aid on foreign direct investment (FDI) in Africa. Since there is no consensus in the literature regarding the effects of foreign aid on FDI in developing countries, the thesis examines the empirical relationship between foreign aid and FDI in Africa covering 41 African countries between 1995 and 2015. The analysis controls for market size, level of development, economic trade openness, political stability, and natural resources dependency. The model is estimated using a dynamic panel of System Generalized Method of Moments (GMM) estimation to address endogeneity problem. The model is applied to panel data compiled from publicly available databases. The results of this analysis show support of initial hypotheses that foreign aid can have positive impact on FDI. In addition, while recent studies tend to consider disaggregating aid sectors for infrastructure, and education among others, this thesis argues that aid function channels more impact on a country's economy rather than being confined to targeted sectors. The results also indicate a significant positive impact associated with development aid channeled through multilaterals on FDI inflows. Consequently, governments' policies to increase FDI must account for efficient utilization of foreign aid where as policies need to be developed not in isolation from each other. In addition, development partners should channel more funds through multilateral institutions to maximize the effectiveness of foreign aid.

TABLE OF CONTENTS

Chapter One: Introduction

Foreign Direct Investment (FDI) and foreign aid are perceived as vital aspects in the development process. Both FDI and Official Development Assistance (ODA) represent two of the largest mechanisms for foreign capital investment into developing countries. In theory, FDI has been considered an integral instrument in development process for over half a century. Although, there are contradicting arguments regarding the relationship between FDI and economic development, the predominant argument remains the same whereas FDI flow helps improving economic growth (Adams, 2009; Alguacil, Cuadros, and Orts, 2011; Busse and Groizard, 2008). According to Alguacil et al. (2011), this relationship is varies across countries' income; however, for lower income countries, the effect did not change. In the meantime, Adams (2009) presented an argument on FDI impeding domestic investment in Africa, and proposed a selective approach in promoting FDI.

1.1 Importance of FDI and Economic Growth

There is an extensive amount of literature examining the relationship between foreign capital and overall development. The theoretical framework is based on the assumption that financial liberalization lead to growth effects through the allocation of capital. Thus, more productive investments will contribute to increased economic growth. This argument is evident throughout previous literature (Reisen and Soto, 2001; Testas, 2003). Reisen and Soto (2001) argued that foreign capital advance growth, and countries should alleviate restrictions to stimulate investment and savings. Meanwhile, Testas (2003) found FDI to influence capital accumulation and growth by interacting with human capital and political stability in Maghrib

region, and established human capital connection for expanding investment portfolio beyond natural resources.

The perception of how FDI impacts development discourse has been adopted by the international community as well. FDI, as presented in a UN Report (2002), contributes in achieving sustained economic growth. According to an OECD Report (2002) as well, FDI can assist in the technology spillovers to developing economies, as well as promote international trade which can enhance the overall economic development. This will be achieved through establishing and improving the industrial sectors within the market, leading to enhance the productivity and business environment.

Since foreign investment was perceived as a significant instrument in the development process, this entailed that developing countries adopt certain policies, such as eliminating regulation on economic sectors and performance requirements. Developing countries were urged to ease restrictions on foreign direct and indirect investment by the international community to attract capital inflow. The assumption is simple, where FDI "stimulates economic growth by increasing the capital stock" (Herzer, 2012, p. 396). However, a major challenge is to adopt the necessary policies to facilitate FDI inflows, in order to achieving sustainable economic development for Africa.

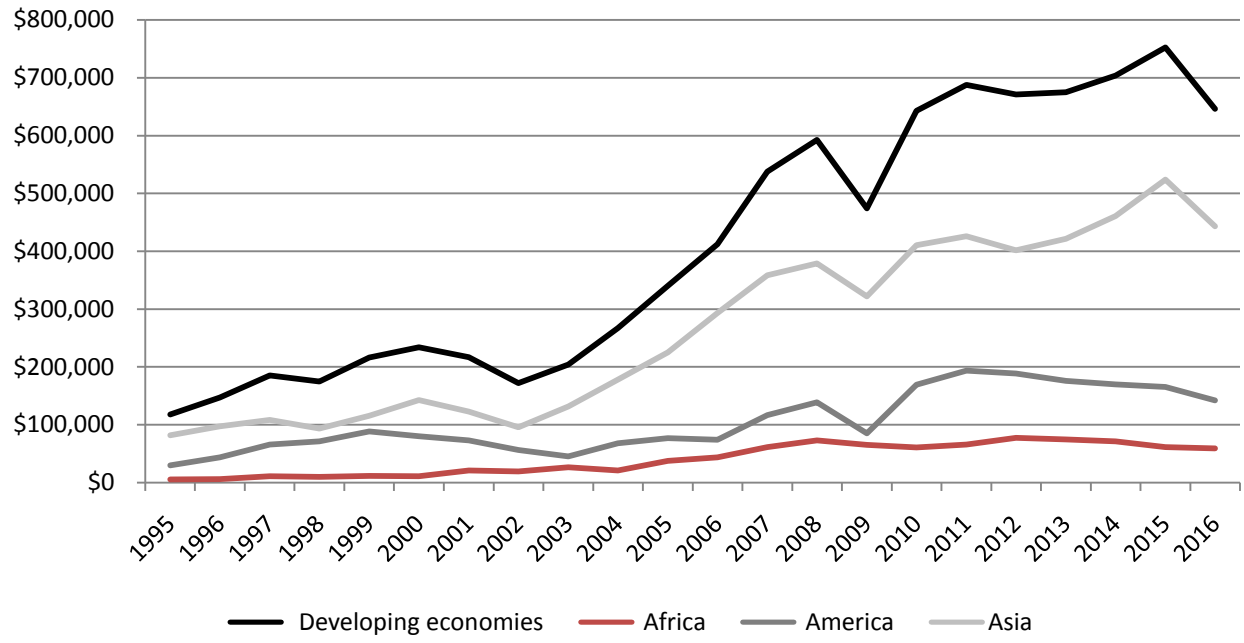
1.2 FDI and ODA in Africa

There is uneven distribution among world regions with respect to FDI shares, as they do not benefit equally from foreign capital. OECD Report on Mobilizing Resources for Sustainable Development (2014) shows that in 2012, Africa's share of total FDI among developing economies amount to 5 percent compared to about 30 percent and 20 percent for Asia and Latin America respectively. Figure 1 shows the trends of FDI inflows across the different regions. FDI

inflows to Africa remains low when compared to the other regions, and continued to decline in 2016 to reach US$59 billion according to UNCTAD World Investment Report (2017). In the meantime, African Economic Outlook (2017) shows African economies had a total external capital for around US$ 177 billion in 2016 with a decrease of over 2.5 percent from previous year. The projected amount for external flows in 2017 is increase by about 2.5 percent which is still below 2015 figures.

Figure 1: Foreign direct investment Trends

(Million Current US$)



Source: UNCTAD, 2017

With respect to ODA, the inflows decline as well by 2% in 2016 when compared to previous year and expected to continue to 2019 as well (African Economic Outlook, 2017). According to OECD, 2016 net bilateral ODA for Africa also declined by 0.7% in real terms and amounted to US$ 27 billion.

Table 1 describes the Financial Foreign flows to Africa which indicates that since 2010 more than 100 US$ billion is channeled to Africa from FDI and ODA. While net ODA flow to Africa has increased by less than 7 percent from 2010 to 2017, FDI has increased by 20 percent for the same period. This could indicate the change in policies adopted by governments and multilateral institutions toward the diversification of foreign capital and challenging the type of dependency on ODA in developing countries.

In addition, remittances still a major contributor to foreign capital inflow in the continent. Remittances stand at more than one third of total capital inflow in Africa. Although remittances are argued to be effective in promoting economic growth and financial development, according to Nwaogu and Ryan (2015) study, remittances does not have a significant contribution to growth in Africa.

Table 1: Financial Foreign flows to Africa

	(Current US$ billions) (* estimates)	Average 2005-09	2010	2011	2012	2013	2014	2015	2016*	2017*
Private	Inward foreign direct investments	48.7	46.0	49.8	49.4	53.1	56.0	51.3	56.5	57.5
	Portfolio investments	10.5	28.5	21.6	34.3	23.0	21.3	15.7	6.5	5.2
	remittances	41.7	53.1	59.6	64.3	63.7	67.2	64.8	64.6	66.2
Public	Net total ODA	42.6	47.8	51.6	51.8	56.8	54.3	51.0	50.2	50.9
	Total	143.6	175.4	182.7	199.8	196.7	198.8	182.8	177.7	179.7

Source: African Economic Outlook (2017), P. 45

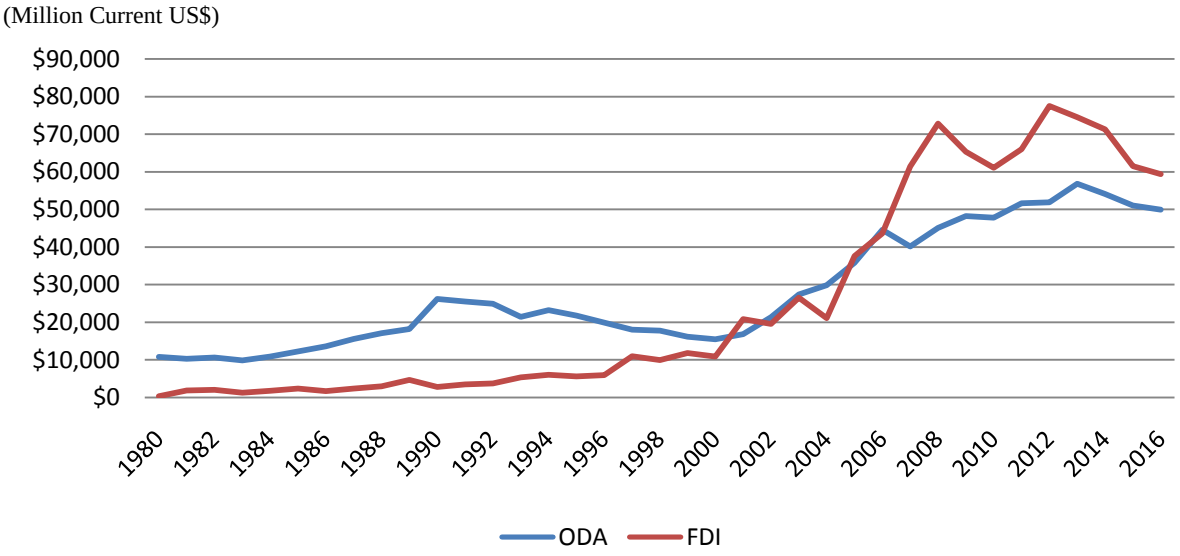
The shift in policy toward diversifying foreign capital and increasing FDI can be associated with the growing debate on effective development assistance. Indeed, after four decades, international aid system struggles to achieve sustainable development. This has been a major concern over the past decade. Thus, the international community became more focused on aid for effective development, as a new discourse for aid architecture. Given the vital role of FDI

in providing capital for economic development, the international community has been focusing on how to utilize ODA in order to increase foreign investment, as well as to optimize the return on development assistance.

The change in approach to increase foreign investment has been endorsed in Busan Partnership for Effective Development Cooperation (2011) by the majority of development partners. One of its' key message is that development policies must be coherent to enable the use of the international investment and trade. This means that development partners' policies toward FDI are now implemented in direct and indirect approaches. The direct approach would be facilitating the increase of FDI, and public private partnership, as well as providing capital to private sector. In the meantime, policies and projects funded through development partners are indirectly promoting FDI through financing for improved private sector environment (Busan, 2011).

Figure 2 compares the trend of ODA and FDI to Africa during the period 1980 to 2016. Starting 1980, there has been growing attention to FDI importance in growth; however, only in early 2000s, FDI started to change radically along with a turn in ODA trend. This is evident from the figure that growth of FDI in comparison to ODA flow to Africa has changed significantly since the mid 2000s. While total ODA net disbursement has from 15.5 US$ billion to 51 US$ billion, FDI has increased from 10.9 US$ billion to 61.4 US$ billion for the period of 2000 to 2016. The reduction in FDI inflow starting 2008 is associated with the financial crisis which shows the volatility of FDI in the region. Further evidence from Figure 2 shows that the share of ODA to Africa has been on an upward trend after a decline started in early 1990s.

Figure 2: FDI and Total Net ODA disbursements for Africa, 1980-2016



Sources: UNCTAD and OECD.STAT, 2017

1.3 Multilateral Development Partners

ODA can be divided into two main components which are bilateral aid and multilateral aid. Multilateral agencies such as the UN agencies and World Bank, as well as other regional and international financial institutions have become, over the course of past decades, a major contributor to development cooperation. In the context of aid effectiveness, multilateral agencies' role is becoming increasingly central in promoting development and to some extent dictating foreign aid policies (Nelson, 2010; OECD, 2015a).

OECD data on multilateral ODA (figure 4) shows that over the course of past decade, multilateral ODA had a steady growth reaching more than 40 percent of bilateral ODA in 2015. Multilateral ODA includes both the official concessional contributions to multinational organizations and earmarked aid channeled particular through multilateral institutions for specific sector or policy (OECD, 2014a). Eichenauer and Reinsberg (2017) emphasized the

importance of earmarked aid, and illustrate that a substantial amount of bilateral aid is being channeled through multilateral agencies as earmarked aid, reaching around US$ 20 billion in 2012.

Moreover, multilateral agencies are adopting expansion policies in supporting the private sector growth as a pillar in achieving effective development cooperation along with sustainable development (World Bank, 2015). This change of aid discourse has been ongoing process since early 2000s. According to UN Report (2009), boosting investment in social policies was perceived as essential to achieve the Millennium Development Goals (MDGs). This is being implemented through loans, equity, credit lines, and investment guaranties provided to private sector, in addition to promoting Private-Public Partnership (PPP) as an effective development policy mechanism for channeling private capital. The objective is for fast-tracking the sustainable development goals (World Bank, 2015). As result, this has led to several new funds established to support private sector growth and public sector, such as Africa50, Global Energy and Renewable Energy Fund, Green Climate Fund, MENA Transition Funds, and other similar mechanisms for financing development projects.

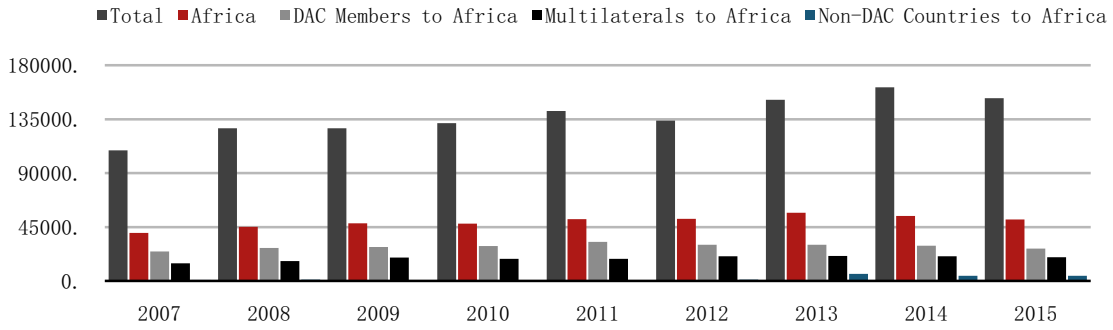
In addition, multilateral institutions have contributed to other mechanisms and initiatives for innovative finance and development. These initiatives "should strive to provide stable and predictable revenue streams for recipient countries" (UNDP, 2012, p. 28). Thus, the global community has taken steps to address the limitation of ODA to promote development which led to a broader range of initiatives aimed to strengthen innovative finance for development and mobilizing resources for development funding.

A major part of the global effort to mobilize resources for development includes improving the business environment to attract foreign direct investments with the prospect of

FDI as a complementary source for development funding. As shown in Figure 2, FDI has witness a surge from around US$ 10 billion to more than US$ 77 billion from 2000 to 2012 in Africa. The decline started in 2013 in the region is much associated with the political instability in North Africa, as well as the global downward trend in private capital. Overall, the figures indicate a radical change in policies contributing to FDI inflow.

In parallel, ODA had gained a momentum as well. Figure 3 compares the different trends of ODA inflow to Africa. It also shows multilateral aid as a share of total foreign aid channeled to Africa over the past decade. It is evident from the figure that growth of total net ODA to Africa is lagging compared to the sum of ODA disbursed to developing economies. While the total net ODA to developing countries has increased by almost 40 percent during the period 2007 to 2015, total net ODA disbursement to Africa has increased by only 27 percent. It should be noted that a downward trend for total net ODA for Africa is recorded starting form 2013.

Figure 3: Trends of ODA in Africa

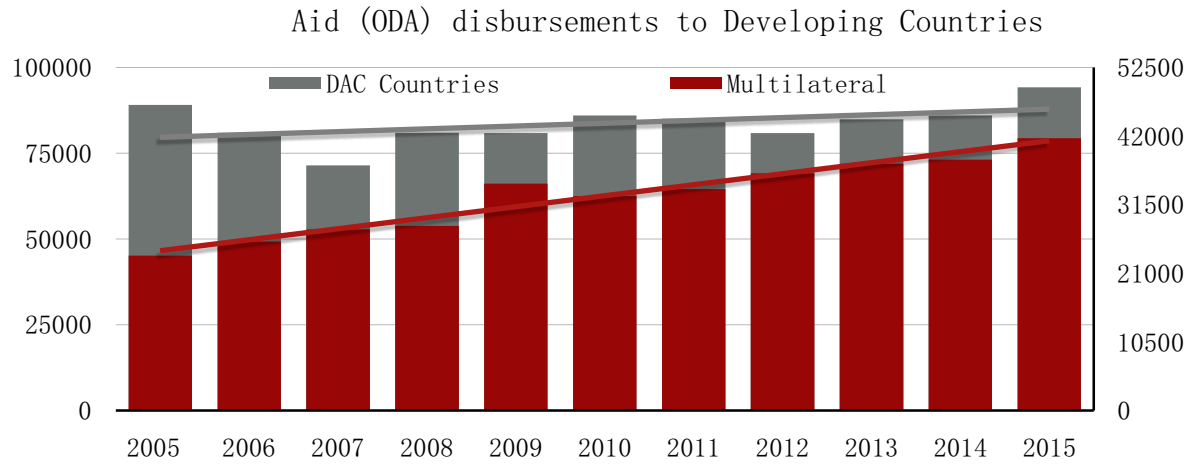


Source: OECD.STAT, 2017

Figure 4 compares multilaterals' behavior against bilateral ODA growth to developing countries. The figure shows that the growth of multilateral ODA has been substantial over the last decade. Multilateral ODA has increased by more than 75 percent from 2005 to 2015, while bilateral ODA grew by 5.7 percent for the same period for developing countries. In the

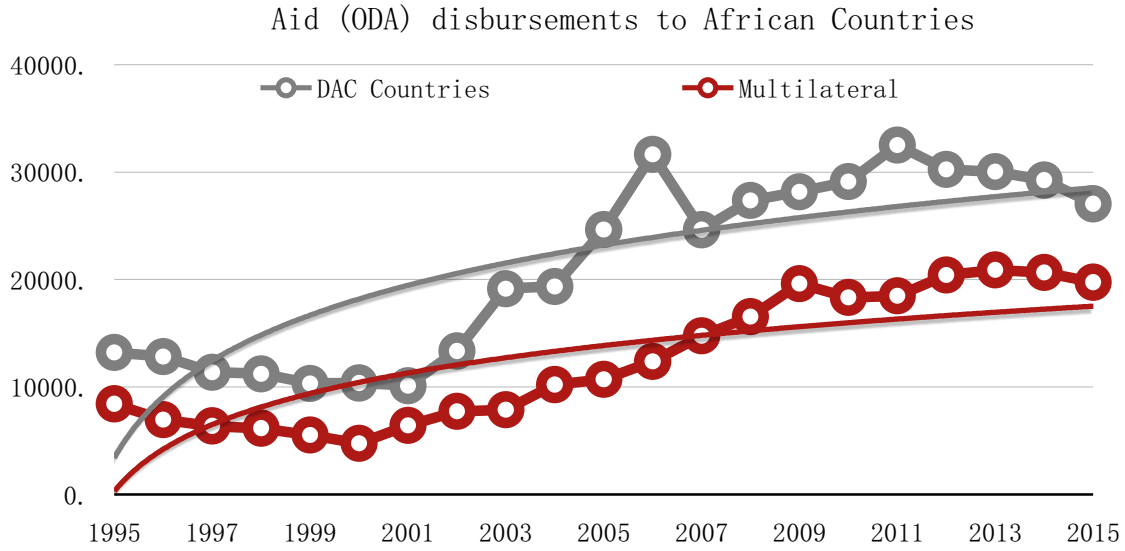
meantime, multilateral ODA has increased by almost 84 percent from around 10 US$ billion to 19.7 US$ billion in Africa as shown in Figure 5, while bilateral ODA grew by 9.7 percent for the same period.

Figure 4: Bilateral and Multilateral ODA in Developing Countries



Source: OECD.STAT, 2017

Figure 5: Bilateral and Multilateral ODA in Africa



Source: OECD.STAT, 2017

Thus, the changes in aid structure can be examined within the context of the radical policies that occurred in recent years toward the new doctrine for aid effectiveness and sustainable development. This was evident after the endorsement of the MDGs in 2000. The role of multilateral ODA in such context may be presented as an effective complementary mechanism to bilateral ODA. Channeling a larger portion of ODA through multilateral agencies could be explained as part of this doctrine.

In addition, multilateral channels are perceived to provide a greater efficiency in delivering ODA. According to 2011 DAC Report on Multilateral Aid, channeling ODA through multilaterals has multiple advantages. Among these are having further outreach, and especially not being bound by geographic constrain. Also, multilaterals tend to have more experiences and expertise within the different countries and their institutional settings. In fact, one of the main arguments on the advantage of multilateral aid is the potential political neutrality (Gulrajani, 2017). In contrast, an argument could be made that multilateral ODA pays more attention to developing countries' priorities. Thus, the role of multilateral ODA has to a great extent positively impacted the concept of ownership. This concept is one of the most significant pillars in Aid Effectiveness.

Although several arguments are in favor of multilateral ODA, there are concerns raised over the complexity of the institutional procedures and the cost associated with it, and the lacking in transparency and accountability as well (Nelson, 2010). This can shed some light on the limits placed by many development partners in channeling ODA through multilateral agencies. According to Abdel-Malek (2015), the main constrain on channeling ODA through multilateral is a product of the increasing pressure on governments to monitor and evaluate aid funding which results in limiting the available resources channeled through multilaterals.

However, part of this dispute is mainly due to lack of control on the choices related to how the funds are actually delivered or on the specifics of projects being funded.

Overall, multilateral institutions are taking more active role in developing countries, and encouraging more actions to raise funds, as well as improving development assistance impacts. For that reason, it is important to try to examine the source of finance of ODA, whereas does multilateral aid is interconnected with FDI volume? The implications of that would be used in order to adopt development policies that can address two issues: one would be focusing on increasing ODA inflow as a means to increase FDI; and second would be targeting the increase in foreign aid inflow not for a specific sector, but through bilateral cooperation or multilateral institutions aiming at further effective development cooperation.

1.4 Research Question

Although there is an increasing emphasize on the influence of FDI and its anticipated effects on economic development, there is inconclusive evidence on the determinants of FDI. Thus, there is a need to understand the factors influencing FDI motivation in general and in specific African countries which is the core rationale of this study. In addition, the major change in international discourse on foreign aid since early 2000s has led to new aid architecture, one that rendered previous literature on foreign aid and FDI nexus outdated. Therefore, we need to further explore this relationship, taking into consideration the extent of which foreign aid has adapted to reflect the new doctrine articulated by the international community. In addition, the difference of FDI shares to African region from other regions indicates a potential individuality that needs to be considered while examining the determinants of FDI.

Using data from 1995 to 2015, the objective of this research is to examine whether there is a relationship between development assistance and FDI inflow, and whether both bilateral and multilateral ODA have similar impact on FDI (Yasin, 2005; Harms and Lutz, 2006; Asiedu, Jin, and Nandwa, 2009).

The research questions proposed are:

- What factors affect FDI inflow to African countries?
- Is there any difference between multilaterals and bilateral channels of foreign aid as determinants of FDI?

The research done to question this relationship is limited, and fewer studies in specific to Africa such as, Yasin (2005) who found bilateral channel to be significant. Meanwhile, the Harms and Lutz (2006) showed that aid do not affect FDI flow or affect FDI differently, while Asiedu et al. (2009) found, not only no effect, but negative one. Thus, available research provides mix results on the relationship between both ODA and FDI. Although, the current focus in recent research is the sectors financed by development assistance and its ability in affecting FDI volume, the question of whether foreign aid from development partners (countries) promotes FDI is the same as aid flow from multilateral institutions, has important implications on countries' development cooperation policies. Furthermore, previous studies such as, Yasin (2005) did not account for the relationship between natural resources and FDI inflow which could have major influence on FDI in the African Continent.

1.5 Research outline

The structure for the research is divided into the following chapters. The First Chapter provided an introduction regarding the foreign investment and foreign aid with specific focus on the African region, in addition to the theoretical framework for FDI and economic growth. Chapter Two presents the previous literature on ODA as Determinant of FDI, and the results of these studies. Chapter Three describes data employed for this research, and their sources for the empirical analysis; as well as, countries selected based on available observations. Chapter Four presents the methodology, including the regression model used, model specification, variables selected. This chapter also presents the limitation for the specific model for analysis. Chapter Five presents the results, and Chapter Six presents the conclusion of the study and provides policy implications.

Chapter Two: Literature Review

There are numerous empirical studies on FDI and foreign aid. For the most part, these studies examined the determinants and effects of both issues as catalysts for development. Although FDI and Foreign aid has been previously examined, the evidences suggested have produced conflicting results. This chapter outlines the existing literature on the factors of FDI, previous studies regarding FDI and foreign aid, and the effectiveness of multilateral and bilateral development assistance.

2.1 **Foreign Direct Investment**

With over two decades of research examining the impact of FDI and its determinants, there are several important factors to be considered when trying to understand the factors of impacting FDI (Amirahmadi and Wu, 1994; Kumari and Sharma, 2017). The literature examined number of variables that assumed to affect foreign investment including GDP, trade openness, infrastructure, human capital, political stability, government incentives, and governance indicators among others (Asiedu, 2002; Asiedu, 2006; Naudé and Krugell, 2007; and Rodríguez-Pose and Cols, 2017). Kumari and Sharma (2017) found liberal trade policies and market size to be an extremely influential in both India and China, while political instability deterring capitals flow.

Most recently, Sulimana, Elianb, and Ali (2018) examined FDI and economic growth in terms of a "bi-directional relationship between FDI and economic growth" for ESCWA countries

over the period 1980-2011. Sulimana et al. (2018) results showed that FDI positively and significantly impact growth, and growth rate positively affect FDI inflow as well as development levels of human capital; however, FDI impact on growth is conditional to levels of human capital. Sulimana, Adil H., and Ali, Hamid E. (2012) also found a relationship between FDI and GDP growth and both could affect it each either direction.

The most frequently used measure of FDI is by looking to its share in GDP. This measurement aims to account for FDI importance in country's economy relative to its market size. The reasoning is due to the hypothesis that market size can influence FDI. The main argument is that the greater market size, the more probable FDI will increase (Economou et al., 2017). Furthermore, the previous studies indicate that the quality of infrastructure is positively associated with higher FDI, but not for sub-Saharan Africa (SSC) (Asiedu, 2006); meanwhile, Kumari and Sharma (2017), findings with respect to infrastructure, also indicate similar results in Asia regions.

According to Asiedu (2006), SSC differs than other regions, and explored this assumption using panel data over the period 1984 to 2000 indicating that larger markets attracted more FDI. In addition, natural resources attracted more FDI in SSC; however, aid factor was not included. Similarly, Rodríguez-Pose and Cols (2017) study shows that the quality of governance and natural resources are important factors for sub-Saharan Africa in enhancing FDI levels. Meanwhile, Naudé and Krugell (2007) identified political stability as a significant aspect in FDI flow. Ezeoha and Ugwu (2015) found that the impact of armed conflicts in Africa suggests a significant negative effect on FDI in the region. In terms of natural resources, Anyanwu and Yaméogo (2015a) found that natural resources are significant factor in Africa.

It is also important to note that the two way relationship between FDI and economic growth has been present in the Global Competitiveness Index which has studied many factors to identify countries' competitiveness and policies to promote prosperity and economic growth. The Global Competitiveness methodology depends on 12 pillars of competitiveness including efficient infrastructure, macroeconomic environment, the size of the market, level of development, among others (Schwab, 2017). More importantly, the methodology shows the interrelation between these pillars, which could be argued that one or more pillar, could be a proxy to other indicators for a country's economy. The methodology used also highlight an important aspect in identifying factors measuring competitiveness which is the significance of economic development stages. Indeed, the stage of development could present different relationship for each pillar; therefore, it is imperative to consider countries' GDP per capita when determining which factors can impact growth and FDI.

2.2 **FDI and Development Assistance**

Since FDI is perceived as vital source for investment for developing countries, as well as factor in economic growth, both development practitioners and policy makers have tried to identify the dynamics of FDI. However, there are relatively a small number of researches examining the impact of development assistance on levels of FDI. The literature poses the question of whether foreign aid has a positive impact for foreign investment or not using different approaches.

Although recent studies suggest a positive relationship between both aid and FDI to some extent such as, Donaubauer, et al., 2016, the reservation of this relationship remains persistent as previous studies. Asiedu, et al. (2009), and Harms and Lutz (2006) have suggested that aid do

not affect FDI flow or affect FDI differently according to the level of income of each economy. For instant, Kimura and Todo (2010) evidence suggests the same results even when considering infrastructure as indirect condition; however, their results suggest that aid channeled only by Japan promoted Japanese direct investment. This is considered the exception and cannot be applied to other countries. Furthermore, Donaubauer (2014) explains that development assistance is negatively associated with foreign investment.

Previous studies found substantial different results on this relationship between these two foreign sources of capital. On the one hand, some studies divided the sample into categories trying to identify the different patterns in explaining this relationship. For instance, Asiedu et al. (2009) divided the countries into regions and low income countries. Meanwhile, Garriga and Phillips (2013) analyzed whether development assistance creates a proper setting to promote FDI after the conflicts as new approach to analysis aid effect. On the other hand, accounting for geographic factor in the studies has also been utilized to study foreign aid impact.

The most recent studies tested this relationship by disaggregating aid categories and suggest that infrastructure aid has positive relationship on attracting FDI (Donaubauer, el al., 2016; Selaya and Sunesen, 2012). Donaubauer, et al. (2016) tested sector-specific aid, mainly regarding infrastructure, while dividing the developing countries into two categories depending on their income levels. The evidence presented supports the assumption in which infrastructure can be a channel allowing more investments inflow.

These studies focused on aid in certain sectors as determinants of FDI inflows and can potentially increase foreign investment, using global dataset of developing countries over different period of years. Most studies focused on disaggregating aid flow into categories to test this relationship, specifically for infrastructure and education. The policy implication is to

increasing FDI inflow by making foreign aid more effective through transmission mechanism (Donaubauer et al., 2016).

In addition, Selaya and Sunesen (2012) research based for the period 1970 to 2001 divided aid inflow into two categories "aid invested in complementary inputs" including public infrastructure and physical capital. Although the result for both categories combined remains positive, evidence suggests only aid targeted to infrastructure can have this positive effect. In terms of policy implications, this recent approach of disaggregating development assistance specifies the consequence of targeted aid for effectively enhancing FDI policies and rendering aid effective.

Several studies attempted to investigate whether or not foreign aid attracts FDI on regional level (Yasin, 2005; Asiedu et al., 2009; Anyanwu, 2012; and Bhavan et al., 2011). Bhavan et al. (2011) classified aid in two categories in South Asian countries, focusing on infrastructure, and identified both categories to be complementary source of finance. In the meantime, Anyanwu (2012) using panel data for Africa over the period 1996 to 2008 indicates a positive and significant relationship between both variables in Africa.

With respect to bilateral and multilateral ODA, Yasin (2005) evidence suggests that bilateral aid has signifiance positive effects on FDI in Sub-Saharan Africa while multilateral aid does not. His research examined 11 countries in SSA from 1990 to 2003 using standard Ordinary Least Squares (OLS). In contrast, Harms and Lutz (2006) classified data into two categories by income levels for the 1990s period, and applied standard OLS, and suggested no effect for both sources. Further, Asiedu et al. (2009) considers similar division of aid, over the period 1983 to 2004 in sub-Saharan Africa. Although Asiedu et al. (2009) found negative relationship among FDI and ODA, their assessment shows that ODA has the potential to diminish the negative

impact associated with countries' high level of risks which can improve the levels of FDI inflows. However, they also point to difficulties to eliminate such risks without an implausible amount of aid, due to the characteristics of SSA region.

2.3 **Multilateral and Bilateral Aid**

Foreign aid is still a controversial issue in the literature (Kosack and Tobin, 2006; Minoiu, and Reddy, 2010). Although there is still no consensus in the literature on foreign aid effect on economic development in general, the perception remains that aid contribute to growth and sustainable development. Kosack and Tobin (2006) This has led to concerns about the effectiveness of aid; therefore, examine which channels for delivering aid becomes essential to the effective utilization of foreign aid.

Despite the substantial literature on aid effectiveness over the past decade, there is no consensus on the different impact of multilaterals and bilateral aid for effective development cooperation (Nelson, 2010; OECD, 2015a). The traditional argument is that bilateral aid is driven by political interests, whereas multilateral aid is not (Minoiu, and Reddy, 2010). Burnside and Dollar (2000) indicate that multilateral aid is driven by good policies in the recipient countries. Part of this perception reflects that multilateral institutions act as catalysts for further capital inflow, including private capital and bilateral aid. However, there are contradicting arguments made regarding the effectiveness of bilateral and multilateral channels for development assistance (Nelson, 2010). Nelson (2010) presents criticism over multilaterals' transparency and cost of operation. DAC report (2015a) argued for assessing multilaterals contribution, and pointed to issues of debt sustainability which requires policy dialogue.

Literature examining aid effectiveness differs and not limited to the concept of promoting economic growth (Biscaye et al., 2017). Indeed, multilateral and bilateral aid has been studies at length in order to explain the effectiveness of channels for efficient development cooperation in recent literature. Biscaye et al. (2017) review the existing studies and found disagreement on both channels. For instance, studies concerning sub-Saharan African region suggest bilateral aid to be less effective. One important argument presented is aid effectiveness, in terms of channeling aid, depends to a great extent on the region or time periods examined.

In addition, when considering the effect on entirely on growth, Rajan and Subramanian (2008) evidence suggests the effects of multilateral and bilateral aid to be similar, and not contributing to growth. Meanwhile, Alvi and Senbeta (2012) study show a significant effect for foreign aid on reducing poverty, specifically multilateral aid and grants. It also shows that development assistance can operate as a channel for development.

2.4 **Contribution to Literature**

This research aims to contribute to literature on FDI, foreign aid, and development nexus, and to extend on previous studies, specifically Yasin (2005), Harms and Lutz (2006), Asiedu et al. (2009). Their main subject was to explaining the linkage between FDI inflow and both bilateral and multilateral ODA using different approaches and variables with data reflecting on mostly 1980s and 1990s.

On the one hand, Yasin (2005) approach was to review the direct effect of both channels for aid using OLS while controlling for labor market, exchange rate, trade openness, political repression and market growth. The argument for labor assessment aimed to reflect on potential association between FDI, cheap labor and nature of FDI tied to natural resources. As

for exchange rates, an argument made of stable currency will help signal a stable economy for investors. The initial hypothesis was that investment is expected from donor countries.

On the other hand, Harms and Lutz (2006) considered aid implication and its' indirect relationship to country's regulatory framework, while disaggregating aid further into technical cooperation. Their initial results indicated no relevance to inflation, debt, and human capital, as well as categories of aid; however, closer analysis revealed that regulatory burdens that discourage investment could be mitigated by aid. Asiedu et al. (2009) also considered aid indirect relationship with risk and its' implication on foreign investment while controlling for infrastructure, growth rate, trade openness, and previous FDI. Asiedu et al. (2009), found all aid categories to be negative; yet, it can mitigate the risks.

The research will provide a critical analysis of the results of these studies by further examining the hypotheses with respect to development assistance and FDI, using panel data set for the African countries based on a sample between 1995 and 2015. This analysis will take a direct approach which is important due the significant change in recent years in regard to both ODA and FDI global policies. Harms and Lutz (2006) indicates the results require further analysis due to the time framework examined, since 1990s witnessed no radical in aid or FDI.

There are several reasons for a revision of literature on ODA's impact. This is mainly due to the substantial transformation of global policies toward development assistance in the last 10 years. The existing research regarding development assistance could be perceived as outdated, and reflect little on how ODA impacts FDI. In addition, the volume of aid, as well as aid architecture, has changed drastically in since early and mid 2000s. Previous literature examining the relationship of ODA and FDI utilized data that might no longer reflect on current state; hence, it is important to reconsider the result presented previously taking into consideration the

progress that took place recently. Furthermore, controlling for natural resources could present an key factor in this relationship.

In terms of the data, the focus on Africa's latest data is for two main reasons. First, Africa share certain characteristics in economic structure, stage of development, and geography over the past 20 years. These characteristics tend to reduce the variations leading to a stronger result, rather than pooling developing countries all together with the assumption that aid and FDI affect development differently in Africa (Asiedu, 2002). Second, Africa has a very low share in global FDI inflow which requires further analysis to provide insight in FDI relationship with the different variables (Yasin, 2005; Asiedu et al., 2009). This research attempts to point to the need for further examination with respect to the sources of aid in Africa and better implementation of policies effective to both development partners and recipients which development cooperation channels economic growth.

Chapter Three: Data

The data set consists of unbalanced panel for a sample of 41 African economies for the period 1995 – 2015. The list of countries is shown in Appendix A. The choice of the period 1995 – 2015 is intended to reflect not only on the latest available data, but also on the characteristics of this period. As previously described, there has been a major change in policies toward both FDI and ODA that led to substantial foreign capital flows to developing countries. Although private capital flow has witnessed an upward trend since early 1990s, Africa's share in ODA has started to rise only since early 2000s. In addition, the choice of 1995 baseline is set to reflect on the inverse relationship between FDI and ODA in Africa till early 2000s.

3.1 Dependent variable

According to UNCTAD definition, FDI flows consist of the net basis of three components. The first one represents equity which refers to the ownership of stocks or capital, and also reflecting the managing of the equity. Second, reinvested income is also calculated in the indicator to account for capital increase of assets. Last factor is intra-company loan which can be recorded either debt through repaying loans or lending or credit through receiving loans.

The dependent variable is FDI annual data measured as the percent of GDP. Data for FDI is composed from UNCTAD database 2017. The study used annual FDI net flows in current exchange rates as a percent of GDP in all estimations to control for economy size (Garriga and Phillips, 2013). This is standard measurement used in previous literature to examine the determinants of FDI (Asiedu, 2002; Kosack and Tobin, 2006; Yasin, 2005).

3.2 Independent variables

The independent variable is foreign aid or the Official Development Assistance (ODA) received by the country which is also measured similarly to the dependent variable. The data on ODA come from the Development Assistance Committee (DAC). OECD database (2017) measured in annual net disbursements or the actual expenditures of aid. The independent variables in the models are bilateral ODA, the multilateral ODA, and total net ODA to the African economies. The independent variables will be lagged by one year in order to give time for ODA to have an effect on FDI inflows (Yasin, 2005).

3.3 Control Variables

There is broad spectrum for explanatory variables which are available and are widely used in the literature for investigating FDI. For this research, all the control variables selected are used in previous studies as determinants of FDI. These variables include countries' GDP, growth rate, per capita, trade openness indicator, as well as infrastructure development. The relevant rationale for the use of these variables differs according to the theoretical approach in each case; however, most empirical studies agree that there is a need to account for development's level, and market size as a factor in determining FDI inflow. Furthermore, several studies have found that political stability, and natural resources are also important aspects in determining FDI inflow (Asiedu et al., 2009; Anyanwu, 2012). It is also important to note that lagged FDI is used to control for unaccounted variables since it may well influence to current FDI (Bhavan et al., 2011).

Economic Development

The literature emphasizes the relation between the level of economic development and FDI flow to a country (e.g. Garriga and Phillips, 2013; Harms and Lutz, 2006; Rodríguez-Pose and Cols, 2017). Among the fundamental factors that impact FDI, according to the literature are GDP per capita, GDP growth rate, and GDP. These factors are considered proxies for economic development. The literature suggests that economic development has a strong positive relationship with FDI. For instance, GDP is used as an indicator for country's market size. The foundation for this relationship is that larger markets tend to attract more FDI due to the opportunities for growth, expansion, and high consumption. However, previous literature points to the diminishing effect of market size. Thus, this research uses GDP measured in natural logarithm. In addition, the level of development is equally important factor in attracting FDI. Therefore, growth rate is included in the model. GDP per capita could also be a proxy for human development and infrastructure, since income is connected to education. GDP per capita is also measured at US$ current prices in natural logarithm. With respect to economic development variables, the data for this study composed from WDI, 2017 which include the GDP, GDP growth rate, per capita GDP. Control variables will be lagged by one year as well as the independent variable.

Trade Openness

According to evidence suggested by Phonesavanh et al. (2015), trade openness significantly determines FDI inflows. Trade openness reflects on two important factors that impact foreign capital flows (Tiwari and Mutascu, 2011). It reflects on the freedom level of trade in goods and services. Certainly, aspect of trade has been essential in this debate. Consequently, policies related to remove any restriction of international capital flow are quite vital. Given that

multinational companies and development partners alike are motivated to invest and work together in export-oriented countries, the literature emphasizes the importance of degree of country's trade policies. Hence, the study also utilized trade openness, measured by share of trade in GDP, to the model (Asiedu, 2002; Harms & Lutz, 2006; Anyanwu, 2012).

Infrastructure Development

Moreover, existing infrastructure is considered one most important to investment flow. However, infrastructure's impact on FDI flow remains inconclusive, depending on the sectoral division of FDI inflow (Asiedu, 2002; Yasin, 2005). In recent literature, infrastructure is considered a major factor when examining ODA relationship and indirect channel affecting FDI. The question of whether aid impacts on FDI via infrastructure is posed by Donaubauer et al. (2016). Donaubauer showed that aid in infrastructure could promote FDI inflows, where infrastructure is subsidizing the cost of investment making it more profitable.

As a measure of infrastructural development, the study uses the number of telephones per 100 people indicators from WDI as a proxy (Kimura and Todo, 2010); nonetheless, it is worth mentioning that this indicator has been criticized for not being able to provide an accurate measurement of infrastructure development.

Natural Resources

The literature suggests that natural resources can have an effect on FDI which is why a proxy for it is included in the model to investigate FDI (Asiedu, 2006; Anyanwu, 2012; Godfred et al., 2015). According to the literature, the presence of natural resources is key determinant to attract foreign capital. It is important to note that the increase in demand for natural resources, led to Africa's higher share of global market (Anyanwu and Yaméogo, 2015). According to Rodríguez-Pose and Cols (2017), the high concentration of natural resources in Africa and many sub-

Saharan African countries represents a substantial source of revenue. Therefore, natural resources are added to the explanatory variables. Natural endowment is measured by as share in GDP from WDI and includes all minerals, petroleum, and forest rents (WDI, 2017). The estimation should account for the contribution and importance of natural resources to the economy.

Political Stability

Political environment is perceived as an important factor in FDI flows for several reasons. One of main arguments presented in the literature is that FDI is negatively affected by political risk (Asiedu, 2002; Asiedu, 2006; and Harms and Lutz, 2006). This is mainly due to the association between political instability and the levels of accountability, and institutional quality (Selaya and Sunesen, 2012). In addition, foreign investment can be repelled due to the risks associated with political instability. Moreover, the internal conflicts and terrorism acts could be argued to have a negative impact on socioeconomic development which negatively impacts the investment portfolio as well.

The data on political stability comes from the World Governance Indicators (WGI) developed by Daniel Kaufmann among others. Political Stability is estimated by the probability of act of violence or terrorism related to political issues (WGI, 2017). This indicator reflect countries' political instability Values ranging between -2.5 and 2.5, where values close to -2.5 indicate less political stability, and higher levels of armed conflicts and terrorism.

3.4 Data Limitation

A number of countries were excluded from the study due to missing substantial data on the selected variables. In addition, countries with armed conflict or failed state, such as Somalia, Eretria, and Libya are also omitted from the data in order not to create a bias (Countries' list is shown in Appendix A). Furthermore, data for political stability and absence of violence estimates from WGI started in 1996, but not reported on yearly basis till 2002. Accordingly, the model consists of unbalanced panel: 651 complete observations for 41 countries. The overall summary statistics for the variables employed is presented in the Appendix – B.

Chapter Four: Methodology

4.1 Hypotheses

There are conflicting findings regarding the premise of aid effect on FDI and growth as well. Different results have been suggested for global and regional studies. Based on the described transformation of global policies toward foreign aid and data described, an argument could be made that aid is related to FDI in African countries. The implications of this assumption are centered on foreign aid capacity to influence FDI directly and indirectly. Aid may directly affect both FDI by financing policies and projects to create and enhance countries' business environment. Indirectly, aid financed in sectors, such as infrastructure, is perceived as a catalyst for investment, as well as lowering the cost and potential risk for investors. In addition, given the premise concerning multilaterals channels as more efficient for delivering aid, especially in terms of not being driven by political or geopolitical ambitions, also suggests that the effects of multilaterals can be imperative to promote FDI inflow. Therefore, the research hypotheses are:

- The rate of FDI inflows will be positively associated with level of ODA.
- The greater the aid funding through multilaterals channels to a country, the more FDI is directed to that country.

4.2 Methodology

The method used in the research is System Generalized Method of Moments (GMM) to examine relative effects of development assistance on FDI. The dynamic panel data model of System GMM estimation was developed by Blundell and Bond (1998). The estimation method has been implemented in recent studies investigating the determinants of FDI (e.g. Asiedu et al.,

2009). System GMM model specification should create more accurate results than standard Ordinary Least Square (OLS) to address the issue of endogeneity while accounting for fixed effects across time and among the different countries.

According to Kimura and Todo (2010), OLS estimation is not consistent when any independent variables correlated with error term, which may not be the case for both FDI and foreign aid variables. This is due to the possibility that ODA is endogenous to other explanatory variables which will give biases results. One of the reasons to explain this likelihood is that foreign aid variables and economic variables are correlated with external occurrences that might affect all the variables at the same time. For instance, Harms and Lutz (2006) also argues that aid could be endogenous as well. The argument made is that disbursement by development partners could be linked to disadvantaged countries with a lesser amount of investment. More importantly, using lagged dependent variable to account for its impact on current FDI will generate bias OLS results (Asiedu et al., 2009). The GMM estimator proposed for this study aims to provide consistent estimates for the results by using "lagged values of the first difference of the endogenous variables as instruments" (Asiedu et al., 2009, p. 271). In addition, Roodman (2009) points to the advantage of using GMM "to accommodate unbalanced panels", as well as multiple endogenous variables.

Therefore, GMM is employed to correct for this problem relying two aspects. The first is based on dependent variables of previous year "as instruments for regressions in first differences … a system of regressions in levels, with lagged first differences used as instruments" (Selaya and Sunesen, 2012, p. 2158). According to Roodman (2009), lagged levels could result in weak instruments in first-differences which can induce biases in finite samples. Thus, system GMM is used to solve this problem by adding a system of equations in levels to the first differenced

equations. In addition, the results obtained are considered to be consistent with heteroskedasticity presence (Kimura and Todo, 2010).

In order to check the results, two tests are implemented for autocorrelation and the validity of the instruments. The Hansen (1982) J-test statistic for over-identifying restrictions is applied. Furthermore, due to the problem arise with large number of instruments which can cause over fit instrumented variables only the first lags are used to keep the 'rule of thumb'. The Results of checks shows the validity of the instruments and no autocorrelation.

4.3 Model Specification

System GMM Panel data is used in order to control for variables that cannot be measured, and accounts for individual heterogeneity, while removing the effect of time-invariant characteristics.

$$\text{Model (1) } FDI/GDP_{it} = \beta_0 + \beta_1 FDI_{it-1} + \beta_2 ODA_{it-1} + \beta_x (\text{CONTROL VARIABLES})_{it-1} + \alpha_i + u_{it}$$

$$\text{Model (2) } FDI/GDP_{it} = \beta_0 + \beta_1 FDI_{it-1} + \beta_2 \text{ODA Bilateral}_{it-1} + \beta_3 \text{ODA Multilateral}_{it-1} + \beta_x (\text{CONTROL VARIABLES})_{it-1} + \alpha_i + u_{it}$$

Where i refers to countries, t refers to time, X refers to control variables, α refers to time-invariant country specific fixed effects, u refers to error term.

Variables Descriptions

Variable	Definition
Dependent variable	
FDI	Net FDI flows in current US$ measured as % of GDP Data Source: UNCTAD
Independent Variables	
ODA	Net Total ODA disbursement in current US$ measured as % of GDP Data Source: OECD
Bilateral ODA	Net Bilateral ODA disbursement in current US$ measured as % of GDP, from all DAC members Data Source: OECD
Multilateral ODA	Net Multilateral ODA disbursement in current US$ measured as % of GDP, from all multilateral institutions Data Source: OECD
Control variables	
GDP growth	GDP growth rate measured in the annual growth percentage of country's GDP Source: WDI
GDP	GDP in current US$ measured by the natural logarithm of GDP Source: WDI
per capita	GDP per capita in current US$ measured by the natural logarithm of per capita GDP Source: WDI
Trade Openness	Trade ratio measured by the total imports and exports ratio of GDP Source: WDI
Infrastructure	Infrastructure measured by the number of telephone lines per 100 people Source: WDI
Political stability	Political stability estimates on a scale -2.5 to 2.5 Source: WGI
Natural resources	Natural resources measured as the Total natural resources rents percentage of country's GDP Source: WDI
Lagged FDI	FDI from previous year Data Source: UNCTAD

Chapter Five: Results

5.1 Initial analysis

Figures 6, 7, and 8 show that FDI inflow are closely associated with ODA and to some extent has similar patterns in recent years as total ODA, as well as bilateral and multilateral ODA in the sample countries, with a few exceptions. We could see different movements between FDI and ODA flows between countries, for example, in countries such as Mozambique, Mauritania, and Republic of Congo.

The political factor can be seen in several countries in Figure 6. For instance, Angola has witnessed a surge in FDI inflow post civil war in 2002. Meanwhile, Mozambique continued to have inconsistence trend of both FDI and ODA due to political instability, but has witnessed a surge in FDI which could be associated with the discovery of natural resources post 2010. The drop in Mauritania inflow of FDI could also be seen as a result of 2005 political change and new leadership in the country. In Rwanda, a sharp drop in ODA inflows is followed by the end of its civil war. These countries have witnessed significant increases and sharp drops in levels of FDI as well as ODA due to several political shocks.

The unstable political circumstances in many African countries, as well as the exposure to external shocks could provide explanation for the lack of clear association between both ODA and FDI in figure 9. The scatter plot of both variables and fitted values indicates no clear or significant association between both variables. This outcome is not necessarily reflecting on the linkage between the variables, once other determinants of FDI are accounted for in the analysis.

Figure 6: Total FDI and Net Disbursement ODA (Total) as Percentage of GDP

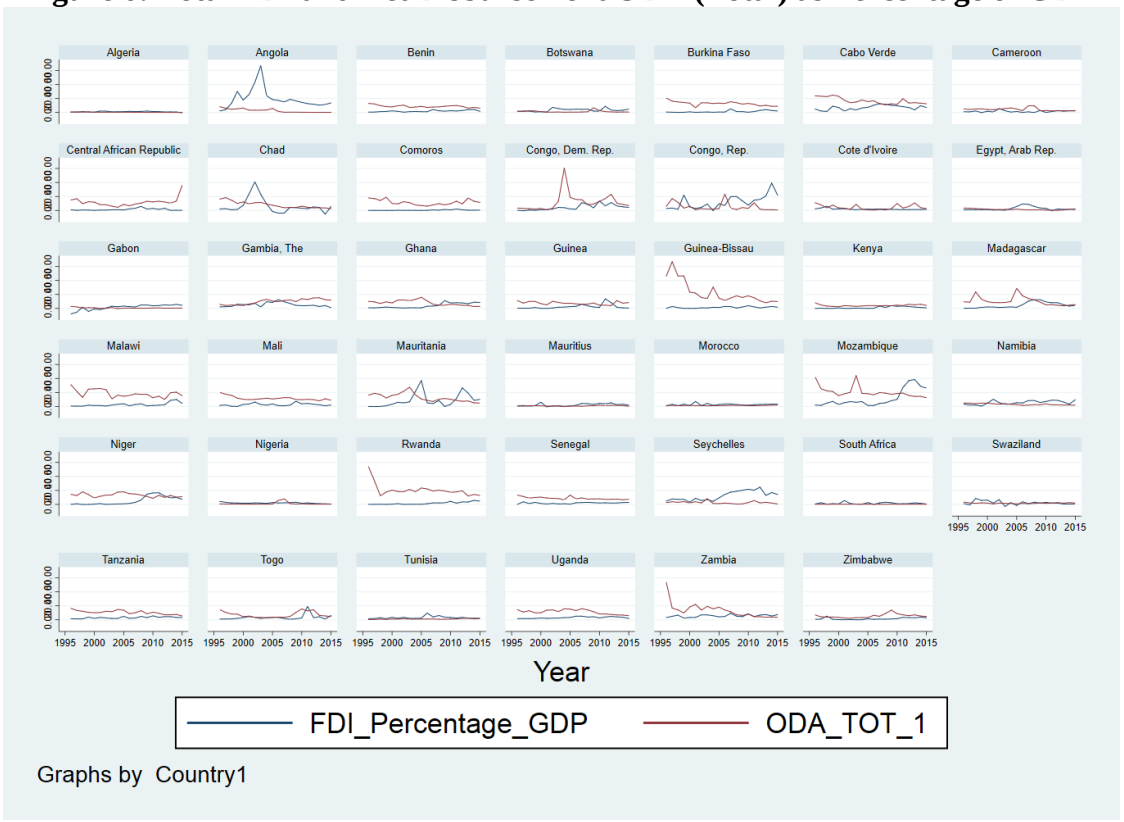


Figure 7: Total FDI and Net Disbursement ODA (Multilateral) as Percentage of GDP

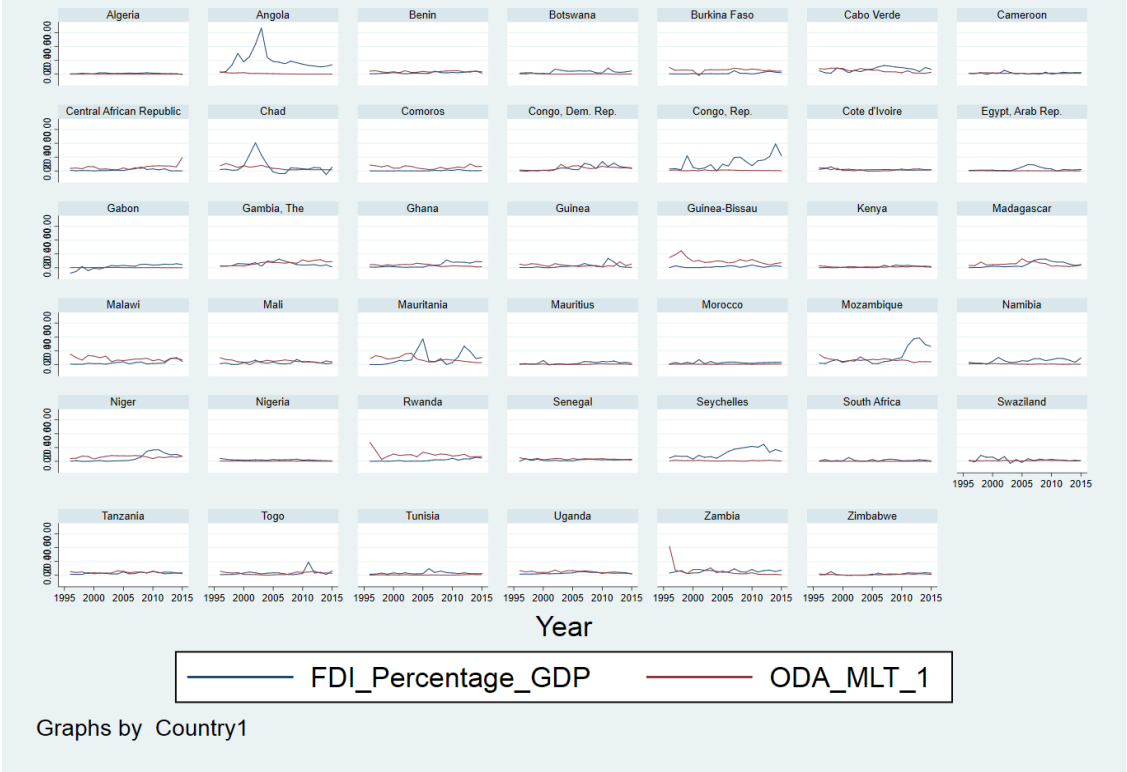


Figure 8: Total FDI and Net Disbursement ODA (Bilateral) as Percentage of GDP

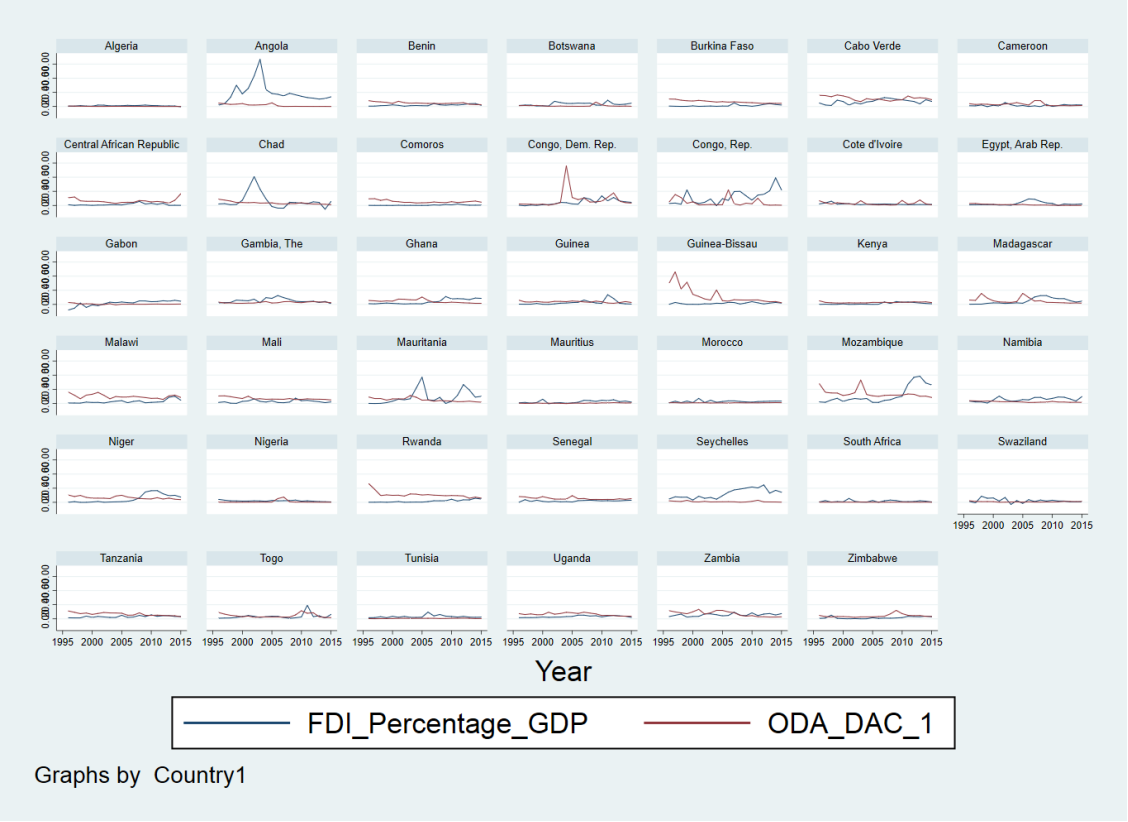
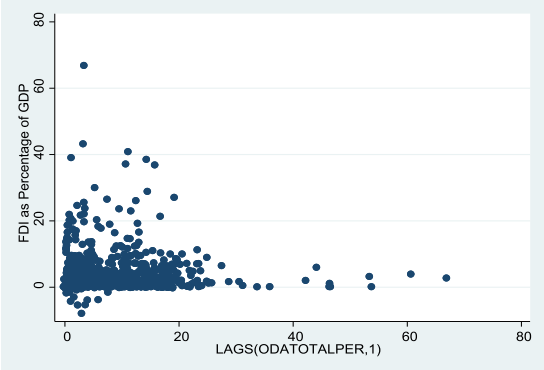


Figure 9: FDI Inflows by Total ODA as Percentage of GDP



5.2 Regression Results

The results show the association between ODA and FDI inflow for 41 countries in Africa. The analysis used the model specification and control variables described previously, and employing a dynamic panel System GMM estimator with internal instruments. Furthermore, I estimated the contributions of multilateral and bilateral ODA to FDI both in isolation and in conjunction with each other.

The instruments method has been used in order to account for potential endogeneity and autocorrelation. The number of lags for the dependent variable was limited to one year to prevent creating too many instruments and collapsing instruments as well for robustness (Roodman, 2009). However, the weak Hansen test for the GMM estimation might suggest that instruments used are poor-quality instruments in terms of validity and strength. Moreover, robust t-statistics is utilized for the heteroskedasticity potential problem with the model. In addition, the study compares the results using Ordinary Least Squares (OLS) and GMM models for total ODA, as well as multilateral and bilateral ODA to check the consistency of the results.

The first result is examining the relationship between total ODA and FDI using OLS. The results of total ODA impact on FDI regressions are shown in Table 2. The coefficient for total ODA is positive in two of the applied models and statistically significant. In column 1, OLS model with robust t-statistics is presented which shows a significant positive relationship between total ODA and FDI. Political stability, trade, and GDP variables all are positive and significant to the dependent variable in model I. Although consistent with the suggested hypotheses with regard to FDI inflow, there are many other variables that may influence the inflow of FDI, and not all can be measured or capture by using OLS. Therefore, the GMM model

specification in Table 3 should create more accurate results by employing fixed effects across time and among the different countries.

The results of Total ODA impact on FDI regressions are shown in Table 3. In column 1, the coefficient for total ODA is positive. Bhavan et al. (2011) presented similar results that level of aid has positive impact on FDI in South Asian region. Their research also indicates that aid in infrastructure and human capital can create favorable conditions for investment and that overall ODA can influences FDI in both direct and indirect ways. However, these results of positive significant relation between total ODA and FDI are different than the earlier study of Asiedu et al. (2009) which showed a significant negative relationship between FDI and total ODA. The finding also contradicts with Harms & Lutz (2006) that overall ODA is insignificant.

With respect to explanatory variables in GMM model, the lagged FDI is statistical significance at 1% significance level. Natural Resources, GDP, and Political Stability show positive and significant impact on FDI. Meanwhile, GDP per capita has significant negative impact on FDI. The rest of the variables in this model show no significance level of impact on FDI inflow. The rest of the variables in this model show no significance level of impact on FDI inflow. Contrary to the expected outcome, GDP growth rate is negatively associated with FDI.

Trade, natural resources, GDP, infrastructure proxy, have positive coefficients and significant relationship to FDI. With respect to the lagged FDI, it is statistical significance at one percent significance level which is expected in the hypothesis. This could be explained mostly by the strong dependence of FDI on the previous years as FDI seems to be persistent (Asiedu et al., 2009). Political risk, as expected in the literature, has the same adverse effect to FDI which is contrary to Yasin (2005).

Natural resources also show positive and significant impact on FDI. GDP income per capita has significant negative coefficient which means countries with higher GDP per capita tend to receive less FDI. This result is consistent with previous studies (Anyanwu and Yaméogo, 2015a). GDP per capita is considered an indicator to human development, also to some extent infrastructure as well. This negative relationship could be argued as a result of FDI dependency on natural resources in the sample studied.

The second set of results have examined the multilateral and bilateral aid. Their impact of on FDI is shown in Column 2 and Column 3 respectively. In contrast to Yasin (2005), multilateral ODA has positive coefficient and significant impact in both OLS and GMM models. Yasin (2005) results showed that only bilateral ODA have similar relationship. Third column shows the impact of bilateral ODA on FDI which is positive, yet not significant. Within this model, other variables are similar to the previous one. The effects of GDP Growth and Per Capita remained negative in this model specification as well.

The last column of results shows that in conjunction, multilateral is positive and significant while bilateral ODA has a positive sign for coefficient and no significance at any conventional level. The difference shown is that the relationships of the different variables in relation to bilateral ODA were similar to those related to multilateral ODA and FDI.

Table 2: Results of ODA effect on FDI

Variables	(1) OLS Total ODA	(2) OLS Multilateral ODA	(3) OLS Bilateral ODA	(4) OLS Bilateral and Multilateral ODA
ODA_TOT_1	.1030554** (0.009)	--------	---------	--------
ODA_MLT_1	--------	.27254213*** (0.000)	--------	.23943256** (0.007)
ODA_DAC_1	--------	-------	.09691629 (0.089)	.04404917 (0.453)
Trade_1	.11244447*** (0.000)	.11493752*** (0.000)	.10965395*** (0.000)	.11486404*** (0.000)
Natural_Re~1	.08603087** (0.001)	.08703865** (0.001)	.0886019** (0.001)	.08568199** (0.001)
GDP_Growth_1	.0246408 (0.713)	.0188733 (0.777)	.03335527 (0.618)	.01827826 (0.785)
logGDP_1	.73354215** (0.009)	.80818759*** (0.000)	.63374788** (0.003)	.8069218*** (0.000)
logGDP_Per~1	-1.2929048** (0.002)	-1.3188746** (0.002)	-1.4333326*** (0.001)	-1.2557566** (0.003)
Tel	-.01301127 (0.794)	-.0065984 (0.894)	-.00792456 (0.875)	-.01024341 (0.838)
Politi_1	.84768949** (0.004)	.8548281** (0.005)	.8858305** (0.002)	.83391695** (0.004)
Constant	-3.2521955 (0.157)	-4.030466* (0.047)	-.87588039 (0.674)	-4.5105388* (0.035)
R-Squared	0.2900	0.2913	0.2863	0.2920
Observations	651	651	651	651
Number of Groups	41	41	41	41

Significance level * p<.05; ** p<.01; *** p<.001

Table 3: Results of ODA effect on FDI

Variables	(1) System GMM Total ODA	(2) System GMM Multilateral ODA	(3) System GMM Bilateral ODA	(4) System GMM Bilateral and Multilateral ODA
FDI_Percen~P | L1.	.33289755** (0.025)	.42417331*** (0.000)	.42957543*** (0.000)	.41972141*** (0.000)
ODA_TOT_1	.17885607* (0.036)	--------	---------	--------
ODA_MLT_1	--------	.63749481* (0.024)	--------	.57244028* (0.041)
ODA_DAC_1	--------	-------	.16274891 (0.084)	.07596992 (0.320)
Trade_1	.1578087* (0.009)	.14674085 (0.053)	.12905926 (0.086)	.15187454 (0.051)
Natural_Re~1	.3179694** (0.139)	.26843609* (0.011)	.28187047** (0.006)	.25624848* (0.015)
GDP_Growth_1	-.13191548 (0.345)	-.20694008 (0.143)	-.17425484 (0.208)	-.20257059 (0.146)
logGDP_1	3.8355273* (0.009)	5.263182* (0.019)	4.5940326* (0.037)	5.4099311* (0.019)
logGDP_Per~1	-13.272463* (0.007)	-12.392971* (0.013)	-13.121577** (0.009)	-12.387196* (0.015)
Tel	1.1167056* (0.028)	1.3164873* (0.021)	1.3737346* (0.016)	1.2895274* (0.024)
Politi_1	5.5965564*** (0.002)	4.8753571** (0.005)	5.0090247** (0.006)	4.9038386** (0.006)
AR(2)	0.916	0.822	0.957	0.849
Hansen *J* Test	0.104	0.141	0.126	0.113
Observations	651	651	651	651
Number of Groups	41	41	41	41
Number of instruments	37	39	37	39

Significance level * p<.05; ** p<.01; *** p<.001

Chapter Six: Conclusion and Policy Implications

6.1 Conclusion

This thesis extends on previous research of the impact of foreign aid in terms of bilateral and multilateral aid on FDI in Africa with recent data covering 41 African countries than used in the literature (Asiedu et al., 2009; Harms and Lutz, 2006; Yasin, 2005). Using the system GMM model with lagged FDI, the study analyzed the relationship between development assistance and FDI at the same time as controlling for political stability, natural resources dependency, trade openness, and infrastructural development using data from 1995 to 2015.

Contrary to earlier studies, the evidence suggested a strong impact of foreign aid on FDI in different model specifications where positive statistically significant coefficients of the total and multilateral ODA variables where found. The results also suggest that although foreign aid is an important factor contributing to FDI in Africa, its impact differs depending on the channels for ODA delivery, which intends calls for specific policies toward multilateral aid.

Furthermore, it is important to recognize that foreign aid funded projects are implemented over a long period of time which means that this results may reflects only the short term influence on FDI. Aid funded Projects are usually tied to implementations' levels. This is especially can be observed on infrastructure programs implemented. Therefore, further examination of aid relationship, depending on much longer spam of time, could provide more information on the long term interaction of aid with other factors.

Other types of programs such as, budget support are disbursed at once, but can have larger implications in the long term as well. It is also important note that budget support programs aimed at implementing a much wider reform policies such as, IMF and World Bank.

These reforms have much bigger implications not just on economic development, but can spread to multiple sectors. Therefore, disaggregating aid on sectoral bases may not be practical choice to examine the relationship to economic development, nor related concerns that are determined by it. For instance, while aid spent on infrastructure may contribute to boosting capital flow, wider reforms related to budget support could also improve infrastructure sector that has much greater impact on investment. This also points to long term relationship that should be factored, so that more accurate assessment could be established since policy reforms need time to materialize. An argument could be made regarding ODA as indicator for regulatory and institutional development.

6.2 Policy Implications

Initially, governments' policies to increase FDI must account for efficient utilization of foreign aid where as policies need to be developed not in isolation from each other. In addition, development partners should channel more fund through multilateral institutions to maximize the effectiveness of foreign aid. Despite the lack of consensus on the impact of FDI or foreign aid on economic development or their interaction with each other, there are several policies that can be deduced base on the suggested evidence in this thesis. Most importantly, these evidences suggest that FDI inflow in Africa is affected by foreign aid, natural resources, and political stability.

First, political stability has always been a factor in calculating investment risks which is one reason to explain the low shares of Africa in terms of FDI flow. The African region has seen many conflicts over the past decades, both inter-state and intra-state conflicts. Indeed, while Africa has a very low share of FDI and considered natural resources abundant, political stability is a major challenge for development. Africa's intra and interstate conflicts are presumed to be major obstacles to development, whereas now terrorism and transnational terrorism are become

much more visible not just in Africa. This requires much larger role by international community to overcome the challenges arising with this rising trend of violence. Consequently, emphasize on the role of development assistance in this new context cannot be overstated.

Second, this study also confirms that natural resources matters for boosting FDI and a factor contributing to FDI inflows. This can support the argument of existing trends of FDI, in specific rent seeking FDI associated with Africa. Furthermore, targeted policies to increase FDI inflow are required for countries that lack natural resources endowment. In order to further examine this issue, disaggregating FDI inflow is necessary to explain whether rent-seeking represents a dominating trend in African region or not.

Third, contrary to previous studies, the results support the suggested hypothesis in this study that ODA can contribute positively to attracting FDI. Time periods studied may provide one explanation for the results suggested in this research. Previous studies were based on dataset from 1980s, 1990s, and early 2000s; however, foreign aid concept has changed significantly over the past decade. Aid for effective development, as a new discourse for aid architecture has dominated the international community. "Aid effectiveness" as a concept was first defined in 2005 Paris declaration. This new discourse dictated partnership among donor and recipient leading to the Global Partnership for Effective Development Co-operation in which international investment become integral component through "a sound policy and regulatory environment for private sector development, increased foreign direct investment, public-private partnerships" (OECD, 2011a, p. 10).

One may argue that this change in foreign aid policies can be associated with the steady and systematic increase over the last decade of multilateral net ODA disbursement to developing

countries. Multilateral net ODA disbursement has grew from US$ 22.6 reaching US$ 41.6 billion when compared to US$ 83.1 billion to US$ 94.2 billion from DAC countries.

The main argument made is essentially foreign aid can positively impact the flow of FDI, but more importantly multilateral institutions in the context of aid effectiveness are major contributors to policy change in developing countries. The growing emphasis on engaging development partners will lead to directly and indirectly influencing the dynamics of business environment in developing countries. This by extension could be argued to increase the portfolio of foreign investment. In addition, the extensive engagement of multilateral development partners indicates to the potential trust in the present settings within the country, whether political or economic. Investors might regard foreign aid as a signal that investment has less risk in these countries which will impact the flow of capital as well.

Thus, one of the main arguments to explain this notion is that foreign aid increases growth indirectly through channels, for instance, in terms of increasing investments and productivity. Consequently, this study contributes to this debate through examining foreign aid and foreign direct investment by disaggregating aid into two fundamental and important categories which are the channels for foreign aid.

While recent studies tend to consider disaggregating aid sectors for infrastructure, and education among others, this thesis argues that aid function channels more impact on a country's economy rather than being confined to targeted sectors. The empirical results presented here support this argument, in a sense that FDI does respond to foreign aid and the economic factors related to market size, economic trade openness, and political stability, and suggesting that specifically multilateral ODA has more positive effect on FDI.

To sum up, an important policy implication of the suggested evidence can be articulated to target two issues. First, governments' policies to increase FDI must account for efficient utilization of foreign aid. Since we argue that foreign aid and FDI have a significant positive relationship, policies need to be developed in parallel in order to achieve a more coherent approach to promoting FDI. This requires specific policies which can engage multilateral institutions, and increase their portfolios as well. Second, donor countries should channel more fund through multilateral institutions to maximize the effectiveness of foreign aid. Although, earmarked funding continues to grow, multilaterals resources differ each year, and the growing use of non-core funding has led to volatility of funding which creates impediment to developing countries (OECD, 2015a).

6.3 Future Research

Further analysis should include the disaggregated portfolio of FDI to provide a concrete assessment to development assistance overall role. The assumption that different types of FDI may respond differently to foreign aid can generate new evidence to this dynamic relationship. Therefore, a special attention is needed to the sectoral composition of FDI inflows. The focus on natural resources industries may also requires attention in Africa, and how to diversify capital flow to different sectors. Therefore, specific type or sector of aid may prove to have better results on directing the flow of capital and boost investment.

However, given that multilateral aid over the past decade has increased enormously when compared to bilateral aid in developing countries, as well as earmarked funding, this should also be considered to understand what type of FDI is motivated by multilateral aid. The significance of highlighting positive relationship of multilateral aid is to guide potential reform policies, in order to increase FDI inflow as pillar in the development process.

References

Abdel-Malek, Talaat (2015). The global partnership for effective development cooperation: Origins, actions and future prospects.

https://www.die-gdi.de/uploads/media/Studies_88.pdf.

Adams, Samuel (2009). Foreign Direct Investment, Domestic Investment, and Economic Growth in Sub-Saharan Africa. *Journal of Policy Modeling*, 31 (6): 939-949.

African Economic Outlook (2017). Special Theme: Entrepreneurship and Industrialisation. Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/AEO_2017_Report_Full_English.pdf

Alguacil, Cuadros, and Orts, (2011). Inward FDI and Growth: The role of Macroeconomic and Institutional Environment. *Journal of Policy Modeling*, 33 (3): 481-496.

Alvi, E. and Senbeta, A. (2012). Does Foreign Aid Reduce Poverty?. *Journal of International Development*, 24(8): 955–976.

Amirahmadi, H., & Wu, W. (1994). Foreign Direct Investment in Developing Countries. *The Journal of Developing Areas*, 28 (2): 167-190.

Anyanwu, J. C. (2012), Why Does Foreign Direct Investment Go Where It Goes?: New Evidence From African Countries. *Annals of Economics and Finance*, 13 (2): 433-470.

Anyanwu, J. C. and Yameogo, N. D. (2015). What Drives Foreign Direct Investments into West Africa? An Empirical Investigation. *African Development Review*, 27: 199–215.

Anyanwu, J. C. and Yaméogo, N. D. (2015a). Regional Comparison of Foreign Direct Investment to Africa: Empirical Analysis. *African Development Review*, 27: 345–363.

Arazmuradov, A. (2015). Can Development Aid Help Promote Foreign Direct Investment? Evidence from Central Asia. *Economic Affairs*, 35: 123–136.

Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: Is africa different? *World Development, 30* (1): 107-119.

Asiedu, E. (2006). Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability. *World Economy*, 29: 63–77.

Asiedu, E., Jin, Y., & Nandwa, B. (2009). Does foreign aid mitigate the adverse effect of expropriation risk on foreign direct investment?. *Journal of International Economics, 78* (2): 268-275.

Bhavan, T., Xu, C., & Zhong, C. (2011). The relationship between foreign aid and FDI in south asian economies. *International Journal of Economics and Finance, 3* (2): 143-149.

Biscaye, P. E., Reynolds, T. W. and Anderson, C. L. (2017). Relative Effectiveness of Bilateral and Multilateral Aid on Development Outcomes. *Review of Development Economics*, 21 (4): 1425–1447.

Busse, M. and Groizard, J. L. (2008). Foreign Direct Investment, Regulations and Growth. *World Economy*, 31: 861–886.

Burnside, Craig, and David Dollar (2000). "Aid, Policies, and Growth". *The American Economic Review*, 90 (4): 847–868.

Donaubauer, J., Herzer, D., & Nunnenkamp, P. (2014). Does aid for education attract foreign investors? an empirical analysis for latin america. *The European Journal of Development Research, 26* (5): 597-613.

Donaubauer, Julian (2014). Does foreign aid really attract foreign investors? New evidence from panel cointegration, *Applied Economics Letters*, 21(15): 1094-1098.

Donaubauer, J., Meyer, B., and Nunnenkamp, P. (2016). Aid, infrastructure, and FDI: Assessing the transmission channel with a new index of infrastructure. *World Development, 78*: 230-245.

Economou, F., Hassapis, C., Philippas, N. and Tsionas, M. (2017). Foreign Direct Investment Determinants in OECD and Developing Countries. *Review of Development Economics*, 21: 527–542.

Eichenauer, Vera Z. and Reinsberg, Bernhard, (2017). What Determines Earmarked Funding to International Development Organization? Evidence from the New Multi-bi aid Data. *The Review of International Organizations*, 12 (2): 171-197.

Ezeoha, A. E. and Ugwu, J. O. (2015). Interactive Impact of Armed Conflicts on Foreign Direct Investments in Africa. *African Development Review*, 27: 456–468.

Gulrajani, Nilima, (2017). Bilateral Donors and the Age of the National Interest: What Prospects for Challenge by Development Agencies?. *World Development*, 96: 375-389.

Godfred Alufar Bokpin, Lord Mensah, Michael E. Asamoah, (2015) "Foreign direct investment and natural resources in Africa". *Journal of Economic Studies*, 42 (4): 608-621.

Harms, P., & Lutz, M. (2006). Aid, governance and private foreign investment: Some puzzling findings for the 1990s. *The Economic Journal, 116* (513): 773-790.

Herzer, D. (2012). How Does Foreign Direct Investment Really Affect Developing Countries' Growth?. *Review of International Economics*, 20: 396–414.

Kimura, H., & Todo, Y. (2010). Is foreign aid a vanguard of foreign direct investment? A gravity-equation approach. *World Development, 38* (4): 482-497.

Kumari and Sharma (2017). Determinants of foreign direct investment in developing countries: a panel data study. *International Journal of Emerging Markets*, 12 (4): 658-682.

Kosack, S., & Tobin, J. (2006). Funding self-sustaining development: The role of aid, FDI and government in economic success. *International Organization*, 60: 205–243.

Minoiu, Camelia and Reddy, Sanjay G. (2010). Development aid and economic growth: A positive long run relation. *The Quarterly Review of Economics and Finance*, 50 (1): 27-39.

Naudé and Krugell (2007). Investigating geography and institutions as determinants of foreign direct investment in Africa using panel data. *Applied Economics*, 39 (10): 1223-1233.

Nelson, Rebecca M. (2010). Multilateral Development Banks: Overview and Issues For Congress. In Leah M. Groffe (Ed.), Multilateral Development Banks and International Finance (pp. 1-28). Nova Science Publishers.

Nwaogu, U. G. and Ryan, M. J. (2015). FDI, Foreign Aid, Remittance and Economic Growth in Developing Countries. *Review of Development Economics*, 19: 100–115.

Nyamongo, Misati, Kipyegon, and Ndirangu (2012). Remittances, financial development and economic growth in Africa. *Journal of Economics and Business*, 64 (3): 240-260.

Phonesavanh Xaypanya, Poomthan Rangkakulnuwat, Sasiwimon Warunsiri Paweenawat, (2015). The determinants of foreign direct investment in ASEAN: The first differencing panel data analysis. *International Journal of Social Economics*, 42 (3): 239-250.

OECD (2011). 2011 DAC Report on Multilateral Aid. Retrieved from https://www.oecd.org/dac/aid-architecture/49014277.pdf

OECD (2011a). Busan Partnership for Effective Development Cooperation. Retrieved from https://www.oecd.org/development/effectiveness/49650173.pdf

OECD (2017). Development aid rises again in 2016. Retrieved from https://www.oecd.org/dac/financing-sustainable-development/development-finance-data/ODA-2016-detailed-summary.pdf

OECD (2002). Foreign Direct Investment for Development Report. Retrieved from https://www.oecd.org/investment/investmentfordevelopment/1959815.pdf

OECD (2015). Investment for Sustainable Development. Retrieved from https://www.oecd.org/dac/Post%202015%20Investment%20for%20sustainable%20development.pdf

OECD (2015a). Multilateral Aid 2015: Better Partnerships for a Post-2015 World. Retrieved from https://www.oecd.org/dac/financing-sustainable-development/multilateral_aid_2015_in_figures.pdf

OECD (2014). Mobilising Resources for Sustainable Development. Retrieved from https://www.oecd.org/dac/FINAL%20DCR%202014%20Highlights%20booklet.pdf

OECD (2014a). Making Earmarked Funding More Effective: Current Practices and a Way Forward. Retrieved from https://www.oecd.org/dac/aid-architecture/Multilateral%20Report%20N%201_2014.pdf

Rajan, Raghuram G., and Arvind Subramanian (2008). "Aid and Growth: What Does the Cross-Country Evidence Really Show?" *The Review of Economics and Statistics*, 90(4): 643–665.

Reisen, H. and Soto, M. (2001). Which Types of Capital Inflows Foster Developing-Country Growth?. *International Finance*, 4: 1–14.

Roodman, D. (2009). A Note on the Theme of Too Many Instruments. *Oxford Bulletin of Economics and Statistics*, 71: 135–158.

Rodríguez-Pose, A., and Cols, G. (2017). The determinants of foreign direct investment in sub-Saharan Africa: What role for governance?. *Regional Science Policy & Practice*, 9: 63–81.

Schwab, Klaus (2017). The global competitiveness report 2009-2010. Geneva: World Economic Forum.

Selaya, P., & Sunesen, E. R. (2012). Does foreign aid increase foreign direct investment? *World Development, 40* (11): 2155-2176.

Sulimana, Adil H., Elianb, Mohammad I., and Ali, Hamid E. (2018). Endogenous Specification of FDI and Economic Growth: Cross-Economies' Evidence. *International Journal of Business*, 23 (1).

Sulimana, Adil H., and Ali, Hamid E. (2012). *International Journal of Finance*, 24 (3): 7406-7421.

Testas, Abdelaziz (2003). Foreign direct investment, capital accumulation and economic growth in the Maghrib: empirical findings and implications for regional integration and political stability. *The Journal of North African Studies*, 8 (2): 75-91.

Tiwari, AK; Mutascu, M. (2011). Economic Growth and FDI in Asia: A Panel-Data Approach. *Economic Analysis and Policy*, 41 (2): 173-187.

UN (2002). Report of the International Conference on Financing for Development. Retrieved from http://www.un.org/esa/ffd/monterrey/MonterreyConsensus.pdf

UN (2009) Progress Report on Innovative Sources of Development Finance. Retrieved from http://www.un.org/esa/ffd/documents/InnovativeFinForDev.pdf

UNCTAD (2017), World Investment Report. Retrieved from http://unctad.org/en/PublicationsLibrary/wir2017_en.pdf

UNDP (2012), Discussion Paper, Innovative Financing for Development: A New Model for Development Finance?. Retrieved from http://www.undp.org/content/dam/undp/library/Poverty%20Reduction/Development%20Cooperation%20and%20Finance/InnovativeFinancing_Web%20ver.pdf

Yasin, M. (2005). Official development assistance and foreign direct investment flows to sub-saharan Africa. *African Development Review*, 17 (1): 23-40.

World Bank (2015). From billions to trillions: MDB contributions to financing for development.

Appendix

Table A: Countries List

Algeria	Gabon	Niger
Angola	Gambia, The	Nigeria
Benin	Ghana	Rwanda
Botswana	Guinea	Senegal
Burkina Faso	Guinea-Bissau	Seychelles
Cabo Verde	Kenya	South Africa
Cameroon	Madagascar	Swaziland
Central African Republic	Malawi	Tanzania
Chad	Mali	Togo
Comoros	Mauritania	Tunisia
Congo, Dem. Rep.	Mauritius	Uganda
Congo, Rep.	Morocco	Zambia
Cote d'Ivoire	Mozambique	Zimbabwe
Egypt, Arab Rep.	Namibia	

Table B: Variables Statistics

Variables	Observation	Mean	Std. Dev.	Min.	Max.
FDI	820	4.143299	6.000047	-7.867775	66.86857
Total ODA	820	8.125811	7.927266	-.2588313	66.84792
DAC ODA	820	4.597751	4.927164	-.6334934	56.0515
Multilateral ODA	820	3.441624	3.726513	-1.971532	41.7907
Growth Rate	820	4.514953	4.735043	-36.69995	35.22408
Trade	819	74.04888	31.87592	25.04194	225.0231
Natural Resources	820	12.06778	12.36089	.0011427	62.69263
Political Stability	654	-.422046	.8647564	-2.844653	1.28206
GDP	820	8.886263	1.553364	5.317367	13.25075
GDP Per Capita	820	6.800735	1.087949	4.631274	9.66061
Telephone Lines	817	3.734853	6.070372	0	31.50345